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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BINGHAM, MCCUTCHEN LLP THREE EMBARCADERO CENTER 18 FLOOR SAN FRANCISCO, CA 94111-4067			CHANNAVAJJALA, SRIRAMA T	
		ART UNIT	PAPER NUMBER	
			2166	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/718,823	JAIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Srirama Channavajjala	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 21 November 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-25 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

1. Claims 1-25 are presented for examination.

***Drawings***

2. The Drawings filed on **11/21/2003** are acceptable for examination purpose

***Priority***

3. This application is a CIP of **10/648,577** filed on 8/25/2003 and is a CIP of **10/648,600** filed on 8/25/2003.

***Specification***

4. The disclosure is objected to because of the following informalities: At page 1-3, page 5-6, applicant incorporated co-pending US Patent applications. Applicant is hereby required to update the status of the application[s] in response to this office action.

5. Applicant has incorporated by reference co-pending applications at page 1-3, page 5-6 in the specification. Examiner notes that incorporation by reference of an application in a printed United States patent constitutes a special circumstance under 35 U.S.C. § 122 warranting that access of the original disclosure of the application be granted. The incorporation by reference will be interpreted as a waiver of confidentiality of only the original disclosure as filed, and not the entire application file, *In re Gallo*, 231 USPQ 496 (Comm'r Pat. 1986). If Applicant objects to access to the entire application file, two copies of the information incorporated by reference must be submitted along with the objection. Failure to provide the material within the period

provided will result in the entire application (including prosecution) being made available to petitioner. The Office will not attempt to separate the noted materials from the remainder of the application. Compare *In re Marsh Engineering Co.*, 1913 C.D. 183 (Comm'r Pat. 1913).

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- 6. *Claims 1-25 are rejected under 35 U.S.C. 101 because invention is directed to non-statutory subject matter.***

***As set forth in MPEP 2106(II)A:***

*Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant*

*believes the claimed invention is useful.*

*Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some “real world” value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 **does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a “useful, concrete and tangible” result to have a practical application.***

7. Regarding claim 1,24-25, “A method of storing data into a database, comprising:
  - identifying data to store into a database;
  - determining if schema metadata that is used to load the data into the database already exists;
  - using the existing schema metadata to load the data into the database if the schema metadata already exists; and
  - generating the schema metadata to load the data into the database if the schema metadata does not already exist”

is directed to “abstract idea” because all of the elements in the claim 1 would reasonably be interpreted by one of ordinary skill in light of the disclosure as software, such that method o storing data into a database related to generating the schema [data structure] steps is software, per se , is “non-statutory subject matter” and **claim 1** do not have “practical application” because the “final result” by the claimed invention in the claim 1 elements particularly “using the existing schema metadata to load the data into the database if the schema metadata already exists; and

generating the schema metadata to load the data into the database if the schema metadata does not already exist” merely code or instructions or a data structure [*the IEEE definition of which can be found in the Interim Guidelines, Annex IV, page 50, and the in MPEP 2106*], or merely non-functional descriptive material for example data or non-functional arrangement of data structure but not producing “**useful, tangible and concrete**” result, therefore ,claim 1 is a non-statutory subject matter. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a “**useful, concrete and tangible result.**” The **Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility** states in section IV C. 2 b.

(2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial

exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application.”).

Claim 1,24-25 have the result of producing “*real-world*” results related to “*using the existing schema metadata to load the data into the database if the schema metadata already exists; and*

*generating the schema metadata to load the data into the database if the schema metadata does not already exist*”, however the claims do not specify that the result (data structure ie., generating the schema metadata) neither displayed nor outputted to a user or otherwise used in the real world, furthermore, no *use of “generating the schema metadata to load the data into the database if the schema metadata does not already exist”* is set forth that would constitute a real-world result. Thus the claimed result is not tangible and thus the claimed result is not a “**useful, concrete and tangible result.**” The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a *useful, concrete and tangible result* the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II).

The examiner reviewed the specification, but was unable to find a practical real-world use of the result. If the applicant is able to find one and inserts it into the claims provide the location the element[s] is found in the specification.

In view of above analysis of claims 2-23 depend from claim 1 is also rejected

8. As to claim 25, claim is directed to "A computer program product comprising a computer usable medium having executable code to execute a process for storing data into a database, the process comprising:

identifying data to store into a database;

determining if schema metadata that is used to load the data into the database already exists;

using the existing schema metadata to load the data into the database if the schema metadata already exists; and

generating the schema metadata to load the data into the database if the schema metadata does not already exist" is non-statutory subject matter In accordance with at least one of the embodiment of the claimed computer readable medium as described at page 42-43, 00149 in the specification "***Such a medium may take many forms, including, but not limited to, non-volatile, volatile and transmission media.....Transmission media can also take the form of "carrier waves"....***".

Further, in accordance with "**Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility**", published on 10/26/2005, **signals, that carry functional descriptive material such** as computer usable medium

executable code or instructions as claimed in claim 28 "does not fall" within one of the four statutory classes of 35 U.S.C § 101, [see page 55-57, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility"] and thus ineligible for patent protection.

**REMARKS:**

In the claim 25, examiner recommends to add "instructions for identifying....  
instructions for determining....  
instructions for using.....  
instructions for generating.....

**For "General Analysis for Determining Patent-Eligible Subject Matter", see 101 Interim Guidelines as indicated below:**

<<http://www.uspto.gov/web/offices/pac/dapp/ogsheet.html>>

No new matter should be entered.

***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-25 of the instant application are considered obvious over claims 1-16 of US Application No.10/648,577 (US Publication No. 2005/0050058) claims 1-26 of US Application No. 10/648,497 (US Publication No. 2005/0050056); claims 1-34 of US Application No. 10/648,749 (US Publication No. 2005/0050105); claims 1-47 of US Application No. 10/259,278 (US Publication No. 2003/0140308);

"A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. *In re Longi*, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); *In re Berg*, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed.Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is

anticipated by a patent claim to a species within that genus). "ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

11. Claims 1-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-54 of U.S. Patent No. 7,047,253**; claims **1-26 of US Patent No. 7051039**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application independent claim 1,24-25 are directed to "a method of storing data into a database, comprising: identifying data to store into a database; determining if schema metadata that is used to load the data into the database already exists; using the existing schema metadata to load the data into the database if the schema metadata already exists; and generating the schema metadata to load the data into the database if the schema metadata does not already exist"; while US Patent 7051039, claims 1-26 are directed to "A computer-implemented method for managing data in a database system, comprising the steps of: storing, in content structures,.....storing, in a set of hierarchy structures,.....maintaining said first access control data.....wherein said content structures include a first set of database objects.....wherein said hierarchical structures include a second set of database

objects.....wherein said first set of database objects are one or more first database objects.....wherein said second set of database objects.....[claim 1,14,]

US Patent 7,047,253, claims 1-54 are directed to "A computer-implemented method for managing data stored in a database system the method comprising the steps of: storing information in content structures....storing metadata for a plurality of resources in said hierarchy structures.....location data, associated.....hierarchy data that indicates a position.....wherein: said content structures include a resource table...location data.....said resource table includes a second row....location data for said second resource indicates.....said first set of one or more tables.....[claims 1-7], claim 9 is directed to " A computer-implemented method....storing, within the database,.....storing within database, data that captures....determining, based on one or more XML schemas, which metadata attributes.....creating one or more structures, within said database.....storing, within said one or more structures.....; similarly claims 22,28-34,36,49.

It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to modify the steps as indicated in claim 1,24-25 of the instant US application since the omission and addition of the limitations would have not changed the process according to which the method of determining and generating schema metadata. Therefore, the ordinary skilled artisan would have been also motivated to modify the claim 1,24-25 of the "determining if schema metadata that is used to load the data into the database already exists;

using the existing schema metadata to load the data into the database if the schema metadata already exists; and

generating the schema metadata to load the data into the database if the schema metadata does not already exist"; with the steps of US Patent No. 7051039 "*wherein said content structures include a first set of database objects.....wherein said hierarchical structures include a second set of database objects.....wherein said first set of database objects are one or more first database objects.....wherein said second set of database objects.....[claim 1,14,]*" and US Patent 7,047,253 "storing metadata for a plurality of resources in said hierarchy structures.....location data, associated.....hierarchy data that indicates a position.....wherein: said content structures include a resource table...location data.....said resource table includes a second row....location data for said second resource indicates.....said first set of one or more tables.....[claims 1-7], claim 9 is directed to "A computer-implemented method....storing, within the database,.....storing within database, data that captures....determining, based on one or more XML schemas, which metadata attributes....creating one or more structures, within said database.....storing, within said one or more structures.....; similarly claims 22,28-34,36,49. The cited elements would not interfere with the functionality of the steps previously claimed and would perform the same function. In re Karlson, 136 USPQ 184 (CCPA 1963).

In the above analysis, dependent claims 2-23 of the instant application rejected

12. Claims 1-25 of the instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of US Application No.10/648,577; claims 1-26 of US Application No. 10/648,600; claims 1-34 of US Application No. 10/648,749 (US Publication No. 2005/0050105); claims 1-47of US Application No. 10/259,278 (US Publication No. 2003/0140308); claims 1-26of US Application No. 10/648,497 (US Publication No. 2005/0050056).

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

US Application No.10/648,577 is directed to “ *A method of storing data into a database: “creating a data structure that has one or more elements that corresponds to one or more attributes...populating said one or more elements with .....generating, based on said data structure.....in said database [see claim 1];*

US Application No. 10/648,600 “A method of storing data into a database,...in response to said one or more routines being invoked, ...determining one or more first values ....determining one or more second values .....tables in said database; generating, based on said one or more first values.....” [claim 1, 12,];

US Application No. 10/648,749 (US Publication No. 2005/0050105) “A method of evolving an extensible markup language (XML) schema,...receiving, at a schema evolver.....based on said first XML schema .....based on said second XML schema,...structured query language (SQL) statements” [claim 1,12,17];

US Application No. 10/259,278 (US Publication No. 2003/0140308) “A method for managing data in a database system...determining, within a database

system,...XML schema; generating mapping .....XML schema and elements of said appropriate database representation” [claim 1,27];

US Application No. 10/648,497 (US Publication No. 2005/0050056) “A method of updating XML schema based data.....based on first XML schema that indicates a first structure of one or more first XML attributes.....based on said first data.....XML attributes; wherein said second structure is .....XML schema” [claim 1-2].

It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to modify the steps as indicated in claim1,24-25 of the instant US application since the omission and addition of the limitations would have not changed the process according to which the method of determining and generating schema metadata. Therefore, the ordinary skilled artisan would have been also motivated to modify the claim 1,24-25 of the “determining if schema metadata that is used to load the data into the database already exists;

using the existing schema metadata to load the data into the database if the schema metadata already exists; and

generating the schema metadata to load the data into the database if the schema metadata does not already exist”; with the steps US Application No.10/648,577: *“creating a data structure that has one or more elements that corresponds to one or more attributes...populating said one or more elements with .....generating, based on said data structure.....in said database [see claim 1];*

US Application No. 10/648,600 “A method of storing data into a database,...in response to said one or more routines being invoked, ...determining one or more first

values ....determining one or more second values .....tables in said database; generating, based on said one or more first values....." [claim 1, 12,];

US Application No. 10/648,749 (US Publication No. 2005/0050105) "A method of evolving an extensible markup language (XML) schema,...receiving, at a schema evolver.....based on said first XML schema .....based on said second XML schema,...structured query language (SQL) statements" [claim 1,12,17];

US Application No. 10/259,278 (US Publication No. 2003/0140308) "A method for managing data in a database system...determining, within a database system,...XML schema; generating mapping .....XML schema and elements of said appropriate database representation" [claim 1,27];

US Application No. 10/648,497 (US Publication No. 2005/0050056) "A method of updating XML schema based data.....based on first XML schema that indicates a first structure of one or more first XML attributes.....based on said first data.....XML attributes; wherein said second structure is .....XML schema" [claim 1-2].

The cited elements would not interfere with the functionality of the steps previously claimed and would perform the same function. In re Karlson, 136 USPQ 184 (CCPA 1963).

In the above analysis, dependent claims 2-23 of the instant application rejected This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**14. *Claims 1-4,8-12,14-15,18,22-25 are rejected under 35 U.S.C. 102(a) as being anticipated by Lee et al. [hereafter Lee], US Publication No. 2002/0169788, published on Nove,14, 2002.***

15. As to claim 1, 24-25, Lee teaches a system which including 'a method of storing data into a database [page 3, col 1, 0037, line 1-2] , storing data into a database corresponds to storing data in DB2 database as detailed in page 3, 0037; 'identifying data to store into a database'[page 3, 0040], Lee specifically teaches data in the DTD is captured into metadata tables, further data is loaded into relational schema as detailed in page 3, 0040

'determining if schema metadata that is used to load the data into the database already exists' [page 3, col 2, 0042, 0047-0048,page 7, col 2, 0103, fig 1], Lee specifically teaches relational table schema that corresponds to Lee's fig 1, element 22, further Lee also suggests loading data into tables of the relational database as detailed in page 7, 0103;

using the existing schema metadata to load the data into the database if the

schema metadata already exists' [page 7, 0109-0110, fig 1], Lee specifically teaches not only creating relational table schema such as detailed in fig 1, element 22, but also loading metadata tables such as detailed in fig 1, element 34];

generating the schema metadata to load the data into the database if the schema metadata does not already exist' [page 3, col 2, 0051, page 4, col 1, 0053, line 1-9, page 6, col 2, 0098, line 5-9, page 7, col 1, line 1-2, fig 1], Lee specifically teaches generating schema related to metadata tables, particularly generating schema for relational database from the metadata [see page 3, col 2, 0052], it is also noted that the generating metadata have element type for example row in the item metadata table corresponding to each of the element type content or attribute type as detailed in page 4, col 1, 0053, fig 1, element 28.

16. As to claim 2, Lee disclosed:

'determining if schema-specific load structures that is used to load the data into the database already exists' [page 7, col 1, 0100, fig 1A], Lee specifically suggests automatic loading of data into relational database;

'using the existing schema-specific load structures to load the data into the database if the schema-specific load structures already exists' [page 7, col 1, 0103, fig 2]

'generating the schema-specific load structures to load the data into the database if the schema-specific load structures do not exist' page 4, 0054-0055].

17. As to claim 3, Lee disclosed 'the schema-specific load structures comprise at least one of array column, data stream, dispatch table entry or allocated address space in memory' [page 4, col 1, 0055]

18. As to claim 4, Lee disclosed 'the schema metadata comprises at least one of column type, column number or column identifier' [page 8, col 1, 0113].

19. As to claim 8, Lee disclosed 'the schema metadata is cached in memory' [fig 1A,, page 7, 0100]

20. As to claim 9, Lee disclosed 'the data is loaded using multiple streams of load operations' [page 7, col 2, 0110].

21. As to claim 10, Lee disclosed 'the multiple streams are loaded in parallel' [page 7, 0112]..

22. As to claim 11, Lee disclosed:

'a client application receiving data' [page 3, col 1, 0050];

Lee disclosed 'determining one or more routines that are associated with a type of said data' [page 7, 0111];, wherein said one or more routines are implemented by a program that is external to both said client application and a database server that manages said database [page 8, col 1, 0114]; in response to said one or more routines

being invoked, said program performing steps comprising: determining one or more first values that are specified in said data' [page 9, col 1, 0123], 'wherein said one or more first values correspond to one or more attributes of said type' [page 9, 0124]; 'determining one or more second values that correspond to one or more hidden columns of one or more tables in said database' [page 9, 0130]; 'generating, based on said one or more first values and said one or more second values' [page 7, col 1, 0101], 'a data stream that conforms to a format of data blocks of said database; and writing said data into one or more data blocks in said database' [page 7, 0108].

23. As to claim 12, Lee disclosed "in response to said one or more routines being invoked, said program performing steps comprising: creating a data structure [fig 1A-1B, page 7, col 1, 0103] that comprises:

one ormore first elements that correspond to said one or more attributes [fig 1B, elements 30,36,page 7, col 1, 0101];

one ormore second elements that correspond to said one or more hidden columns'[page 4, col 1, 0055];

'populating said one or more first elements with said one or more first values' [page 14, col 1, 0197];

'populating said one or more second elements with said one or more second values, wherein said generating of said data stream is based on said data structure' [page 14, col 1, 0197, 0201].

24. As to claim 14, Lee disclosed "at least one of said one or more second values is associated with said one or more first values and distinguishes said one or more first values from other values in said data" [page 16, col 2, 0223]..

25. As to claim 15, Lee disclosed 'wherein at least one of said one or more second values describes a position of said one or more first values relative to other values in said data' [page 16, col 2, 0225].

26. As to claim 18, Lee disclosed 'wherein said generating and said writing are performed without causing a Structured Query Language (SQL) engine to load said data' [.page 11, col 2, 0159]

27. As to claim 22, Lee disclosed 'a client application receiving the data [page 3, col 1, 0050]; that conforms to a first type definition that indicates one or more first attributes, wherein at least one of said one or more first attributes is of a type that is defined by a second type definition that indicates one or more second attributes [see fig 1A-1B,page 7, 0100, 0102];

determining one or more first routines that are associated with said first type definition, wherein said one or more first routines are external to both said client application and a database server that manages said database [page 7, 0111, page 8, col 1, 0114]

in response to one or more calls to said one or more first routines: creating a first data structure with one or more first elements that correspond to said one or more first attributes[page 7, 0104,0106];

'populating said one or more first elements with one or more first values that are specified in said data, wherein said one or more first values correspond to said one or more first attributes' [page 7, 0110];

in response to one or more calls to one or more second routines that are associated with said second type definition, creating a second data structure with one or more second elements that correspond to said one or more second attributes '[page7, 0112];

'populating said one or more second elements with one or more second values that are specified in said data, wherein said one or more second values correspond to said one or more second attributes' [page 8, 0113];

'generating, based on said first data structure and said second data structure, a data stream that conforms to a format of data blocks of said database' [page 8, 0115-0116];  
'writing said data into one or more data blocks in said database'[page 7, 0108]..

28. As to claim 23, Lee disclosed generating a set identifier that is associated with one of said one or more first elements' [page 3, col 2, 0051,page 4, col 1, 0053, line 1-9, page 6, col 2, 0098, line 5-9,page 7, col 1, line 1-2, fig 1];  
'populating a plurality of elements in said second data structure with said set identifier [page 14, col 1, 0197, 0201.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

29. ***Claims 5-7,13,16-17,19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. [hereafter Lee], US Publication No. 2002/0169788 , published on Nove,14, 2002 as applied to claim 1 above, further in view of, Sarkar US Patent .No. 6418448***

30. As to claim 5, Lee disclosed 'the schema metadata' [page 3, col 2, 0052], however, Lee does not specifically teaches 'protocol neutral'. On the other hand,

Sarkar disclosed 'protocol neutral' [col 4, line 14-21], particularly, internet inter ORB protocol.

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Sarkar into automatic loading of an XML document defined by a document-type definition into a relational database including the generation of a relational schema of Lee et al. because both Lee and Sarkar are directed to database schema related to XML [see Lee: Abstract; Sarkar: col 5, line 50-55], both Lee and Sarkar also teaches metadata [see Lee: fig 1, element 34; Sarkar: col 5, line 56-59] and both are from same field of endeavor.

One of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Sarkar into automatic loading of an XML document defined by a document-type definition into a relational database including the generation of a relational schema of Lee et al. because that would have allowed users of Lee to use automated web functionality that not only supports mapping between XML and relational schema, but also allows navigation through web pages i.e., XML/RDF [Sarkar: col 6, line 47-50], bringing the advantages of XML/RDF[resource description framework] document can be carrying an object SQL query for execution within one or more object relational schema components over the web as suggested by Sarkar [col 6, line 63-65].

31. As to claim 6, Sarkar disclosed 'schema metadata can be used by multiple different protocol-based load procedures' [col 10, line 10-18].

32. As to claim 7, Sarkar disclosed 'the multiple different protocol-based load procedures comprise the File Transfer Protocol and the Hypertext Transfer Protocol' [col 10, line 23-37].i.

33. As to claim 13, Sarkar disclosed 'data structure is created in memory that is associated with said client application' [col 6, line 26-29].

34. As to claim 16-17, Sarkar disclosed 'wherein a number of attributes of said type is not defined to said client application' [col 6, line 36-39].

35. As to claims 19-20, Lee disclosed 'wherein determining said one or more routines comprises locating addresses of one or more routines that are in a same entry as an identity of said type' [col 18, line 58-67, col 19, line 1-2]

36. As to claim 21, Sarkar disclosed invoking one or more routines that are located at one or more addresses that are associated with said type' [col 19, line 14-20].

### ***Conclusion***

The prior art made of record

- a. US Patent No. 6418448
- b. US Pub.No. 2002/0169788

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 703/872-9306 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

sc  
Patent Examiner.   
June 9, 2006. **SRIRAMA CHANNAVAJJALA**  
**PRIMARY EXAMINER**